

REMARKS

Claim 1 has been amended to correct an informality. Upon enter of this Amendment, Claims 1-17 remain pending in this application.

In the Office Action, Claims 1 and 17 were rejected under 35 U.S.C. § 102(e) as being anticipated by Koster et al. (U.S. Patent No. 6,614,505). Applicants respectfully traverse this rejection.

Independent Claim 1 recites a lithographic projection apparatus that includes, *inter alia*, a first screen positioned in a path of the beam of radiation between the radiation source and an optical element to be screened from positively charged particles, the first screen being substantially transparent to the beam of radiation, and a positive voltage being applied to the first screen to repel at least a portion of the positively charged particles away from the optical element; and a second screen positioned in the path of the beam of radiation on at least one side of the first screen, a negative voltage being applied to the second screen to repel negative particles away from the first screen.

Koster et al. does not teach or suggest all of the limitations recited in Claim 1. Koster et al. discloses the use of negatively charged collector plates (133) and positively charged repeller plates (135) that are disposed adjacent to the path of the projection beam PB in between the radiation source LA and the illuminator IL. (Koster et al. at col. 7, lns. 32-41; Figure 2.) The collector plates (133) are used to attract ions and particles that have been generated by the electron source (132), which is used to ionize gas and any contaminant particles. (Koster et al. at col. 7, lns. 32-41; Figure 2.) Nowhere does Koster et al. disclose or suggest that the plates (133, 135) are positioned in the path of the beam of radiation, or that the plates (133, 135) are substantially transparent to the beam of radiation, as recited in Claim 1. Moreover, Koster et al. explicitly teaches that the negatively charged collector plates (133) are used to attract positively charged ions and particles (150) and that the positively charged repeller plates (135) are provided to repel any ion or charged particles (151) that overshoot the collector plates (133) and direct them back onto the collector plates (133). (Koster et al. at col. 7, lns. 32-41; Figure 2.) Thus, Koster et al. does not disclose or suggest a positive voltage being applied to the first screen to repel at least a portion of the positively charged particles away from the optical element, and a negative voltage being applied to the second screen to repel negative particles away from the first screen, as recited in Claim 1.

Accordingly, Applicants respectfully submit that Claim 1 is patentable over Koster et al., and respectfully request that the rejection be withdrawn.

Independent Claim 17 recites a method of manufacturing an integrated structure by a lithographic apparatus that includes, *inter alia*, screening the beam of radiation between the radiation source and at least one optical component with a first screen by applying a positive voltage to the first screen; and screening the beam of radiation on at least one side of the first screen with a second screen by applying a negative voltage to the second screen.

Koster et al. does not teach or suggest all of the limitations recited in Claim 17. The plates (133, 135) disclosed by Koster et al. do not screen the beam of radiation, as recited in Claim 17. The plates (133, 135) disclosed by Koster et al. are arranged to collect positively charged ions and particles that are generated by the electron source (132). (Koster et al. at col. 7, lns. 32-41.)

Accordingly, Applicants respectfully submit the Claim 17 is patentable over Koster et al., and respectfully request that the rejection be withdrawn.

In the Office Action, Claims 1 and 17 were rejected under 35 U.S.C. § 102(e) as being anticipated by Moors et al. (U.S. Patent Application Publication No. 2002/0109828). Applicants respectfully traverse this rejection.

Claims 1 is discussed above. Moors et al. discloses the use of particle shields, such as electrostatic particle shield 10, provided in the vicinity of the mask MA. (Moors et al. at [0074] – [0075] and Figure 2.) The particle shield (10) includes two capacitor like plates (11, 12) placed perpendicular to the mask (MA) on either side of it. The plates (11, 12) are oppositely charged so as to establish an electric field E between them. (Moors et al. at [0075].) Thus, the plates (11, 12) are not placed in the path of the projection beam PB, as required by Claim 1. Instead the plates (11, 12) are positioned on opposite sides of the projection beam PB so that the projection beam PB may passes through the electric field E generated between the plates 11, 12. (Moors et al. at [0074] – [0075] and Figure 2.)

Accordingly, Applicants respectfully submit the Claim 1 is patentable over Moors et al., and respectfully request that the rejection be withdrawn.

Claim 17 is discussed above. Moor et al. does not disclose or suggest screening the beam of radiation between the radiation source and at least one optical component with a first screen by applying a positive voltage to the first screen; and screening the beam of radiation on at least one side of the first screen with a second screen by applying a negative voltage to the second screen, as recited by Claim 17. The plates (11, 12) are used to generate an electric field E between them. They are not each used to screen the beam of radiation.

Accordingly, Applicants respectfully submit the Claim 17 is not anticipated by Moors et al., and respectfully request that the rejection be withdrawn.

In the Office Action, Claims 8-11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over either Koster et al. or Moors et al. Applicants respectfully traverse this rejection.

Claims 8-11 depend from Claim 1 and add the limitation of specific voltages and potentials being applied to the first and second screens. As explained above, Claim 1 is patentable over both Koster et al. and Moors et al. Applicants respectfully submit that all of the claims that depend from Claim 1 are also patentable over both Koster et al. and Moors et al., and respectfully request that the rejection of Claims 8-11 be withdrawn.

Applicants acknowledge with appreciation the indication that Claims 2-7 and 12-16 would be allowable if rewritten in independent form. In view of the above remarks, Applicants respectfully submit that all of the claims are allowable.

All rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited. If any point remains at issue which the Examiner feels may best be resolved through a personal or telephone interview, please contact the undersigned at the telephone number below.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,
PILLSBURY WINTHROP LLP



EMILY T. BELL
Reg. No. 47,418
Tel. No. (703) 905-2261
Fax No. (703) 905-2500

Date: January 11, 2005
P.O. Box 10500
McLean, VA 22102
(703) 905-2000